US Army Corps of Engineers®
Engineer Research and Development Center

Urban Tactical Planner™ (UTP)

Description and Background

Urban terrain information at your fingertips! In 1996 TEC developed a new product in response to the warfighter's growing need for up-to-date geospatial information describing the urban environment. This data set, the Urban Tactical Planner™ or UTP, provides the warfighter with an entirely new capability to assist in the planning and visualization of military operations in the world's urban areas. It will assist, for example, the planning and execution of Military Operations on Urban Terrain (MOUT), Support and Stabilization Operations (SASO), and threat assessment. It will also support Operations Other Than War (OOTW). The data set is kept as simple as possible, and a low-end PC notebook with CD-ROM running ArcView is capable of the intended services. Enhancements will provide ArcMap format for those with ArcGIS and ArcReader format for those users without ArcGIS. Shapefiles will be resident on the CD for those customers still using ArcView or wanting greater flexibility.

Key Capabilities

TEC has investigated the urban mapping problem and has developed an expeditious process to analyze, map and display layers of urban area information. This information, terrain and cultural, is presented and easily manipulated with the use of ArcView software -- a user-friendly, flexible, geospatial tool. The digital data formats in ArcView are very flexible and can be adjusted to meet specific customer needs. This software will run on a notebook PC and NT platform. The product is capable of exploiting numerous data inputs such as DTED, commercial imagery, NIMA topographic products, and intelligence sources. TEC can produce this data set in about six weeks depending on the size of the urban area. The capability of meeting rapid response requirements is addressed by providing only mission essential data for valid DA requirements. Therefore, it is not inclusive nor strictly an intelligence data set in the traditional sense; it is a terrain analysis data set. The data set can be produced to operate at the unclassified level by using the appropriate data sources for that level (such as imagery, maps, and ground photos).

The urban environment is displayed as an aggregate of features that affect urban area operations, such as building form and function (broken out as polygons of like-building types), building height, vertical obstructions, terrain features, bridges, lines of communication, key cultural features, landmarks, etc. These features are shown as themes or layers that can be displayed, on-or-off, as decided by the user. Attribute tables that provide additional information, e.g., building data, vertical obstruction data, road and bridge data, are linked to these layers. In addition, with the click of a button, hot-links provide the user with more information: ground photos of the terrain and building types, and architectural drawings or site plans. These themes or layers are displayed on top of a map or image base at the user's discretion. Fly-throughs can be viewed through TerraExplorer.

The user can apply this data to their specific needs. For example, an Army aviator can display only those features that affect navigation (landmarks), route choice, and landing. Planners for ground operations can display urban areas that will likely be occupied by noncombatants, show the approach routes to town, and also display key terrain on their area of operation, such as a ridge surrounding the town or the tallest buildings in the town.

Each urban area is presented at varying degrees of detail. A user can show an overview of the area (showing relief and major routes for example), zoom into an urban view or larger scale, and finally down to a one square kilometer view of a selected site or sites within the urban area. The product can be tailored to specific customer requirements. The data is

deliverable via Intelink, SIPRNET, OSIS, CD-ROM, and/or in hard copy output. A requestor can have TEC produce the data and product or TEC can provide data (images, maps, GIS files, etc.) to the customer for their own analysis using ArcView or ArcGIS. A library of UTP's can be accessed using Arc Internet Map Server (ArcIMS) and TerraExplorer on SIPRNET and JWICS.

Product Development

Terrain Analysis Branch, Operations Division, Topographic Engineering Center, Engineer Research and Development Center, US Army Corps of Engineers.

Current Status

The product has undergone various enhancements and is continuing to evolve. Requirements production started in FY98. TEC employs in-house and contract capabilities to generate this data set and product. Potential users can now view a prioritized list of cities that reflect national priorities to identify urban information requirements. This can be accessed on the TEC Intelink-S homepage (http://www.tec.army.smil.mil). A reprioritization or any new requirements can be submitted to the HQDA DCS G-2. Product specifications have been compiled. As of 22 July 2003, 24 Limited Distribution (LIMDIS) and 13 classified data sets have been completed; 14 others in work. The newest versions will be built with Arc Geodatabases utilizing NIMA Feature Attribute Coding Catalogue structure for portability.

Point of Contact

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